09/751299
STN Search Summary

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     FILE 'CAPLUS' ENTERED AT 15:46:19 ON 26 MAR 2003
L1          836 S NITRILASE OR (NITRILE (2W) HYDRATASE)
L2          187 S L1 AND (CYANO? OR CYANIDE)
L3           50 S L2 AND (?CARBOXYLIC (2W) ACID)
L4           20 S L3 AND (STEREO? OR REGIO? OR ENANTIO?)

L4   ANSWER 1 OF 20  CAPLUS  COPYRIGHT 2003 ACS
AN   2003:229543  CAPLUS
TI   Purification, cloning, sequencing and over-expression inEscherichia coli
     of a regioselective aliphatic nitrilase fromAcidovorax
     facilis 72W
AU   Chauhan, S.; Wu, S.; Blumerman, S.; Fallon, R. D.; Gavagan, J. E.;
     DiCosimo, R.; Payne, M. S.
SO   Applied Microbiology and Biotechnology (2003), 61(2), 118-122

L4   ANSWER 2 OF 20  CAPLUS  COPYRIGHT 2003 ACS
AN   2003:6085  CAPLUS
TI   Bacterial nitrilase and gene sequences exhibiting
     stereoselectivity useful for synthesis of chiral reaction products
IN   Madden, Mark; Desantis, Grace; Chaplin, Jennifer Ann; Weiner, David Paul;
     Milan, Aileen; Chi, Ellen; Short, Jay M.; Burk, Mark
PA   Diversa Corporation, USA; Madden, Darcy
SO   PCT Int. Appl., 560 pp.
     PATENT NO.       KIND  DATE          APPLICATION NO.  DATE
     ---------------  ----  --------      ---------------  --------
PI   WO 2003000840     A2   20030103      WO 2002-US15983  20020515
PRAI US 2001-300189P   P    20010621
     US 2001-309006P   P    20010730
     US 2002-351336P   P    20020122

L4   ANSWER 3 OF 20  CAPLUS  COPYRIGHT 2003 ACS
AN   2002:525755  CAPLUS
TI   An enzyme library approach to biocatalysis: development of
     nitrilases for enantioselective production of
     carboxylic acid derivatives
AU   DeSantis, Grace; Zhu, Zuolin; Greenberg, William A.; Wong, Kelvin;
     Chaplin, Jenny; Hanson, Sarah R.; Farwell, Bob; Nicholson, Lawrence W.;
     Rand, Cynthia L.; Weiner, David P.; Robertson, Dan E.; Burk, Mark J.
CS   Diversa Corporation, San Diego, CA, 92121, USA
SO   Journal of the American Chemical Society (2002), 124(31), 9024-9025
```

L4 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2002:123237 CAPLUS
TI Preparation of dicarboxylic acid monoesters from cyanocarboxylic acid esters
IN Chauhan, Sarita; Dicosimo, Robert; Fallon, Robert D.; Gavagan, John E.; Payne, Mark S.
PA E. I. Du Pont de Nemours and Company, USA
SO PCT Int. Appl., 31 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002012527	A2	20020214	WO 2001-US24299	20010803
	WO 2002012527	A3	20020822		
	US 6455730	B1	20020924	US 2000-632419	20000804
	AU 2001079159	A5	20020218	AU 2001-79159	20010803
PRAI	US 2000-632419	A	20000804		
	WO 2001-US24299	W	20010803		

OS CASREACT 136:166162; MARPAT 136:166162

L4 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2001:878920 CAPLUS
TI (E)-Selective hydrolysis of (E,Z)-.alpha.,.beta.-unsaturated nitriles by the recombinant nitrilase AtNIT1 from Arabidopsis thaliana
AU Effenberger, Franz; Osswald, Steffen
SO Tetrahedron: Asymmetry (2001), 12(18), 2581-2587

L4 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2001:747978 CAPLUS
TI Isolation and expression of a gene for a nitrilase from Acidovorax facilis 72W and use of recombinant nitrilase as a biocatalyst
IN Fallon, Robert D.; Payne, Mark S.; Chauhan, Sarita; Dicosimo, Robert
PA E.I. Dupont De Nemours and Company, USA; Gavagan, John, E.
SO PCT Int. Appl., 67 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001075077	A2	20011011	WO 2001-US10481	20010330
	WO 2001075077	A3	20021017		
	WO 2001075077	C1	20021219		
	EP 1280892	A2	20030205	EP 2001-922985	20010330
PRAI	US 2000-193707P	P	20000331		
	WO 2001-US10481	W	20010330		

too late

OS MARPAT 135:315314

L4 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2001:669871 CAPLUS
TI Enzymatic routes to enantiomerically pure aromatic .alpha.-hydroxy carboxylic acids: a further example for the diversity of biocatalysis
AU Groger, Harald
SO Advanced Synthesis & Catalysis (2001), 343(6+7), 547-558

L4 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2001:489604 CAPLUS
TI Producing enantiomerically pure .alpha.-substituted carboxylic acids using stereospecific nitrilases in the presence of Strecker reagents
IN Madden, Mark; Weiner, David Paul; Chaplin, Jennifer Ann
PA Diversa Corp., USA; Madden, Darcy
SO PCT Int. Appl., 87 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001048175	A2	20010705	WO 2000-US35555	20001229
	WO 2001048175	A3	20020214		
	US 2002012974	A1	20020131	US 2000-751299	20001228
	EP 1242589	A2	20020925	EP 2000-989578	20001229
PRAI	US 1999-173609P	A2	19991229		
	US 2000-254414P	A2	20001207		
	WO 2000-US35555	W	20001229		

OS CASREACT 135:89140; MARPAT 135:89140

L4 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2000:254122 CAPLUS
TI Preparation of chiral carboxylic acids from racemic nitriles by resolution with a stereospecific nitrilase or nitrilase-containing microorganisms
IN Ress-loeschke, Marion; Friedrich, Thomas; Hauer, Bernhard; Mattes, Ralf; Engels, Dirk
PA BASF A.-G., Germany
SO Ger. Offen., 28 pp.
LA German

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19848129	A1	20000420	DE 1998-19848129	19981019
	WO 2000023577	A1	20000427	WO 1999-EP7679	19991013
	AU 9964708	A1	20000508	AU 1999-64708	19991013
	BR 9914629	A	20010626	BR 1999-14629	19991013
	EP 1123386	A1	20010816	EP 1999-952558	19991013
	EE 200100232	A	20020815	EE 2001-20010023219991013	
	JP 2002527106	T2	20020827	JP 2000-577288	19991013
	NO 2001001912	A	20010418	NO 2001-1912	20010418
	ZA 2001004066	A	20020701	ZA 2001-4066	20010518
PRAI	DE 1998-19848129	A	19981019		
	WO 1999-EP7679	W	19991013		

OS MARPAT 132:292813

L4 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 1998:618329 CAPLUS
TI Nitrile hydratase and amidase genes recombinant production in host cells and use for the production of chiral amides and carboxylic acids
IN Fallon, Robert Donald; Nelson, Mark James; Payne, Mark Scott
PA E. I. Du Pont De Nemours and Company, USA
SO U.S., 37 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5811286	A	19980922	US 1996-726136	19961004
	US 5888785	A	19990330	US 1998-103411	19980624
	US 6133421	A	20001017	US 1998-103434	19980624
	US 6251650	B1	20010626	US 2000-687594	20001013
PRAI	US 1995-4914P	P	19951006		
	US 1996-726136	A3	19961004		
	US 1998-103434	A3	19980624		

L4 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 1996:367768 CAPLUS
TI Method of producing optically active .alpha.-hydroxy acid or .alpha.-hydroxyamide
IN Tamura, Koji
PA Nitto Chemical Industry Co., Ltd., Japan
SO Eur. Pat. Appl., 10 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 711836	A1	19960515	EP 1995-307976	19951108
	EP 711836	B1	20000202		
	R: DE, FR, GB				
	JP 08131188	A2	19960528	JP 1994-299109	19941109
	JP 3119468	B2	20001218		
	US 5736385	A	19980407	US 1995-556085	19951109
PRAI	JP 1994-299109	A	19941109		

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2001:489604 CAPLUS
DN 135:89140
TI Producing enantiomerically pure .alpha.-substituted carboxylic acids using stereospecific **nitrilases** in the presence of **Strecker** reagents
IN Madden, Mark; Weiner, David Paul; Chaplin, Jennifer Ann
PA Diversa Corp., USA; Madden, Darcy
SO PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001048175	A2	20010705	WO 2000-US35555	20001229
WO 2001048175	A3	20020214		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002012974	A1	20020131	US 2000-751299	20001228
EP 1242589	A2	20020925	EP 2000-989578	20001229

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRAI US 1999-173609P	A2	19991229	
US 2000-254414P	A2	20001207	
WO 2000-US35555	W	20001229	

OS CASREACT 135:89140; MARPAT 135:89140

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2000:598000 CAPLUS
DN 133:295394
TI Stereoretentive Nitrile Hydratase-Catalysed Hydration of D-Phenylglycine Nitrile
AU Wegman, M. A.; Heinemann, U.; Stolz, A.; van Rantwijk, F.; Sheldon, R. A.
CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.
SO Organic Process Research & Development (2000), 4(5), 318-322
CODEN: OPRDFK; ISSN: 1083-6160
PB American Chemical Society
DT Journal
LA English
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 13:32:39 ON 26 MAR 2003)

FILE 'CAPLUS' ENTERED AT 13:32:45 ON 26 MAR 2003
L1 2 S STRECKER AND NITRILASE

L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN **2000:598000** CAPLUS
DN 133:295394
TI Stereoretentive Nitrile Hydratase-Catalysed Hydration of D-Phenylglycine Nitrile
AU Wegman, M. A.; Heinemann, U.; Stolz, A.; van Rantwijk, F.; Sheldon, R. A.
CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.
SO Organic Process Research & Development (2000), 4(5), 318-322
CODEN: OPRDFK; ISSN: 1083-6160
PB American Chemical Society
DT Journal
LA English
CC 16-2 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 7
AB The hydration of D-phenylglycine nitrile to the corresponding amide, mediated by nitrile hydratase-contg. microorganisms, was studied. Batch and fed-batch reactions were compared with regard to degrdn. and racemization of the chem. labile substrate. A batch process gave satisfactory results and at up to 25 mM D-phenylglycine nitrile (D-1), D-phenylglycine amide was obtained in 94% yield with 92% ee using an immobilized Rhodococcus sp. (NOVO SP 361). The enzyme could be reused, although it slowly lost its activity. When the concn. of D-phenylglycine nitrile was increased to 100 mM in a batch reaction rapid decompn. of the substrate was obsd. and D-phenylglycine amide was obtained in only 37% yield. A fed-batch reaction afforded an improved yield, although the decompn. of the substrate could not be avoided completely. Lowering the temp. stabilized the substrate, and a fed-batch reaction at 5 .degree.C resulted in a 96% yield of D-phenylglycine amide with 95% ee. A no. of other whole-cell hydratase/amidase systems also hydrated D-1 in nearly quant. yield and >94% ee. Moreover, the ee was further increased to >99% upon prolonged reaction times with minimal loss in yield due to the action of the L-specific amidase that is present in these biocatalysts.
ST Rhodococcus immobilized nitrile hydratase phenylglycine nitrile hydration
IT Rhodococcus
(NOVO SP 361; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Amination
(Strecker, retro-; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Fermentation
(batch; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Immobilization, biochemical
(microbial cell; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Hydration, chemical
(selective, enzymic; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Rhodococcus erythropolis
Rhodococcus globerulus
Rhodococcus rhodochrous
(stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT 100-52-7, Benzaldehyde, biological studies
RL: ADV (Adverse effect, including toxicity); FMU (Formation, unclassified); BIOL (Biological study); FORM (Formation, nonpreparative)
(stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT 6485-67-2P, D-Phenylglycine amide
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(stereoretentive nitrile hydratase catalyzed hydration of

D-phenylglycine nitrile)
IT 9024-90-2, Nitrilase
RL: BPR (Biological process); BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
(stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT 45789-64-8 66116-54-9
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT 7664-41-7, Ammonia, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; 1973 CAPLUS
(2) Anon; 1978 CAPLUS
(3) Anon; 1992 CAPLUS
(4) Anon; 1992 CAPLUS
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(29) Sugiura, Y; J Am Chem Soc 1987, V109, P5848 CAPLUS
(30) Taillades, J; Bull Soc Chim Fr 1995, V132, P119 CAPLUS
(31) Wegman, M; J Mol Catal B: Enzymatic, in press 2000

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STN Search Summary

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     FILE 'CAPLUS' ENTERED AT 16:33:24 ON 26 MAR 2003
L1          262 S STRECKER (2W) SYNTHES?
L2          152 S L1 AND (AMINO (2W) ACID?)
L3           46 S L1 AND (CHIRAL?)
L4            2 S L3 AND CARBOXYL?
L5            7 S L3 AND ?CARBOXYL?
L6            5 S L5 NOT L4
L7           59 S L1 AND NITRIL?
L8            0 S L1 AND (NITRILASE OR (NITRILE (2W) HYDRATASE))
L9           17 S L1 AND REVIEW/DT

L6   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2003 ACS
AN   2002:846194  CAPLUS
TI   Carbocyclic .alpha.,.beta.-diamino acids: asymmetric Strecker
     synthesis of stereomeric 1,2-diaminocyclohexanecarboxylic
     acids
AU   Pai Fondekar, Kamalesh P.; Volk, Franz-J.; Khaliq-uz-Zaman, S. M.; Bisel,
     Philippe; Frahm, August W.
SO   Tetrahedron: Asymmetry (2002), 13(20), 2241-2249

L6   ANSWER 2 OF 5  CAPLUS  COPYRIGHT 2003 ACS
AN   2000:656732  CAPLUS
TI   Carbocyclic .alpha.-amino acids: asymmetric Strecker
     synthesis of a series of 2-alkylated 1-
     aminocyclopentanecarboxylic acids
AU   Wede, Judith; Volk, Franz-J.; Frahm, August W.
SO   Tetrahedron: Asymmetry (2000), 11(15), 3231-3252

L9   ANSWER 4 OF 17  CAPLUS  COPYRIGHT 2003 ACS
AN   1998:452573  CAPLUS
TI   Stereoselective syntheses using carbohydrates as carriers of chiral
     information
AU   Kunz, Horst; Hofmeister, Armin; Glaser, Bjorn
CS   Johannes Gutenberg-Universitat Mainz, Mainz, Germany
SO   Polysaccharides (1998), 539-567.  Editor(s): Dumitriu, Severian.
     Publisher: Dekker, New York, N. Y.
DT   Conference; General Review

L9   ANSWER 10 OF 17  CAPLUS  COPYRIGHT 2003 ACS
AN   1997:141855  CAPLUS
TI   New strategies to .alpha.-alkylated .alpha.-amino acids
AU   Wirth, Thomas
SO   Angewandte Chemie, International Edition in English (1997), 36(3), 225-227

L9   ANSWER 11 OF 17  CAPLUS  COPYRIGHT 2003 ACS
AN   1997:55720  CAPLUS
TI   Asymmetric catalysis of the Strecker amino acid
     synthesis by a cyclic dipeptide
AU   Iyer, M. S.; Gigstad, K. M.; Namdev, N. D.; Lipton, M.
CS   Department Chemistry, Purdue University, West Lafayette, IN, 47907, USA
SO   Amino Acids (1996), 11(3-4), 259-268
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L9 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1996:621179 CAPLUS
TI Syntheses of fluorinated amino acids. From the classical to the modern concept
AU Tolmann, V.
SO Amino Acids (1996), 11(1), 15-36

L9 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1994:245702 CAPLUS
TI Recent developments in the stereoselective synthesis of .alpha.-amino acids
AU Duthaler, Rudolf O.
SO Tetrahedron (1994), 50(6), 1539-650

WEST Search History

DATE: Wednesday, March 26, 2003

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L3	L2 and (stereoselect$ or chiral$)	17	L3
L2	$nitrilase same (carboxylate or (carboxylic adj acid) or amino adj acid)	105	L2
L1	$nitrilase and (carboxylate or (carboxylic adj acid))	156	L1

END OF SEARCH HISTORY